

VERBAL BEHAVIOR IN GROUP
PSYCHOTHERAPY

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CHAPTER 1

INTRODUCTION

The efficacy of group psychotherapy in bringing about personality change is relatively unquestioned by practicing therapists. There are reports of its success in the treatment of almost every conceivable patient group. Studies quoted in a review article by Wirt and Wirt (1963) indicate that group psychotherapy has been conducted with many widely divergent groups such as the blind, aphasics, and children and adults with psychosomatic disorders. Studies using all of these groups report positive results. In spite of this, the meaning of verbal behavior to the group psychotherapeutic process is still quite vague although it is probably one of the most critical variables. The purpose of this study was to investigate two aspects of verbal behavior in group psychotherapy. First, the function of the therapist's verbal behavior in the group was investigated. Secondly, the relationship of verbal behavior and patient's perceptions of the group was studied.

Group therapy in the United States is generally regarded as beginning with Pratt's classes (1907) for tubercular patients. Little research was done with group therapy, however, until 1940. A review by Dreikurs and Corsini (1954) indicated that just over a hundred papers were published from 1910 to 1930, whereas over five hundred were published in the period from 1940 to 1949. Since 1949, increased interest in the use of group therapy has more than doubled the number of published papers.

The tremendous growth in the application of group therapy in the past few years is no doubt due to a variety of reasons, not the least of which are (1) the treatment is relatively inexpensive; (2) professional manpower requirements are less for the number of patients treated; and (3) group therapy represents a development in the continuing search for new and more effective methods of treatment. Wirt and Wirt (1963) pointed out that a primary reason for the current enthusiasm for group psychotherapy is that its effectiveness has been demonstrated to the point that it is being advocated more and more as the treatment of choice, apart from any economic or manpower considerations.

Research on group psychotherapy, however, has not kept pace with its rapid growth as a treatment method. Although more is being written about group therapy than ever before, there is little experimental literature on the subject. Wirt and Wirt (1963), in their review article, saw most of the group psychotherapy literature as "descriptions of therapists' experiences or recommendations." One of the obvious reasons for the paucity of experimental data on group psychotherapy is the extreme complexity of the process. The many variables operating in individual psychotherapy are multiplied several times over in group psychotherapy. After reviewing the literature, McFarland, Daniels, and Lieberman (1964) gave a much more basic reason as to why research in group psychotherapy has not gone beyond "descriptions of the therapists' experiences or recommendations." They state:

Lack of sufficient descriptive material, or a language in which to insert these descriptions, prevents the development of a fund of knowledge based on the collective efforts of many investigators. All too frequently the inventiveness of one investigator is ineffective in making a contribution outside the limited confines of his

own institution because others cannot, with any certainty, duplicate his efforts.

At this time it appears that the most fruitful approach to research in this area is to study those variables that are easily defined, fairly stable, and reliably measured. A cluster of variables that meets all of these criteria is found in verbal behavior.

Matarazzo (1962) has conducted several studies of changes in interviewee speech as a function of changes in interviewer speech. He has concerned himself with a number of non-content verbal interaction variables and has reported high reliabilities in recording and scoring.

Kew, Rickard, and Timmons (1962) reported that group verbal behavior was quite stable. They found that a hierarchy of verbal responding was formed in the group which persisted over time. They suggest that because of this stability verbal measures could be used as a dependent variable.

Saslow and Matarazzo (1959), in a study on the stability of non-content verbal interaction variables, e.g., frequency and duration of verbal responses, etc., found that patients who showed the most change on these measures, over an eight-month period, had significantly more hours in psychotherapy than those who showed little change.

Although verbal behavior seems to be a critical and much-discussed variable in the group psychotherapeutic process, it is probably one of the least understood. For example, the relationship between the level of verbal activity of group members and the benefit derived from it is not well defined. In a study relating change in group psychotherapy to degree of verbal participation in the group, Smith, Bassin, and Froelich (1960) concluded:

The most articulate member of the group is not necessarily the person who gains the most, nor is the quiet one in the group the individual who does not achieve important attitudinal alterations.

However, in a study by Sechrest and Barger (1961), patients perceived as more beneficial those sessions in which they participated, generally, at what was for them a relatively high level. This study suggests a linear relationship between verbal participation and benefit received, whereas Smith, et al. (1960) suggest a relationship between these variables which is curvilinear. A curvilinear relationship is also suggested by Cook (1964) who found, in a study of silence in individual psychotherapy, that a relative lack of silence in the session characterized the unsuccessful cases, whereas a higher percentage of silence tended to characterize the successful ones. Successful cases had silences occurring from 4 to 20 percent of the time, whereas unsuccessful ones either had less than 4 percent silence or more than 20 percent. This seems to indicate that there is an optimal amount of verbal participation in psychotherapy. He goes on to say that silence seemed to be an index of the therapist's behavior and reflects the "climate" of the interview. Although this inference is probably a bit premature in terms of the limits of his data, it does suggest the possibility that non-content variables can lead to a better understanding of more psychodynamic concepts.

Some indirect support for Cook's hypothesis is found in a study by Anderson (1960). He found that an interviewer talked more with job applicants he accepted than those he rejected. He also found more silences in the interviews with rejected applicants than in the interviews of applicants who were accepted.

It is a commonly held conviction that a patient will derive more from group psychotherapy if he participates in it verbally. It is implicit in many studies, and in the theories of many group psychotherapists, that a high degree of patient-patient interaction is desirable. Yet, it also seems that it would be desirable for the therapist to be able to control the group activity level when appropriate. For example, there may be times in a group when a silence may be very threatening and the therapist may want to end it, or at other times he may want to reduce the amount of interaction. Practically every textbook on group psychotherapy discusses the desirability of maintaining control of group action. To quote Powdermaker and Frank (1953):

It would seem that the doctor's aim in the initial stages of therapy should be to sense when and how to give the amount of direction and support that each situation demands. Too little guidance often results in intense competition for superiority, which only upsets the patients without leading to anything beneficial. Too much guidance, on the other hand, may inhibit the appearance of the neurotic patterns, the analysis of which is part of the objective of psychotherapy.

However, as stated earlier, little is known about the meaning of the effect of activity level in general, and less about the effect of the therapists' verbal activity level in psychotherapy.

Although several authors have investigated the meaning of the therapist's and interviewer's verbal activity level in a two-person interview situation or individual psychotherapy relationship, very little has been done along these lines with psychotherapy groups. However, the findings in individual psychotherapy may have application to group psychotherapy.

Matarazzo, Weins, and Saslow (1964) have found highly consistent changes in interviewee verbal behavior by varying the duration of the

interviewer's utterances. Their results showed that the length of interviewee utterances varied positively with the length of therapist's utterances. They have also found that silence behavior by the interviewer causes a decrease in frequency and duration of verbalizations by the interviewee.

In an investigation on the effects of individual differences between interviewers on the interaction of patients in individual psychotherapy, Goldman-Eisler (1952) found that each of three psychiatrists had his own individual reaction pattern regardless of the type patient he was interviewing. Further, she found that they influenced patients' interaction differently, i.e., the depressed patients "responded best" to active stimulation and the active patients to the passive interview.

Lennard and Bernstein (1960) related therapists' verbal activity level to signs of strain in individual therapy. They found that there were fewer signs of strain in the patients of verbally active therapists as compared to patients of verbally passive therapists. Another interesting finding was that therapists compensate for lower patient verbal output by increasing their own verbal output, and for higher patient output by reducing their output. They suggest that the therapist attempts to restore the therapy session to within, what is for him, normal limits of verbal activity by varying his level of output. However, "theory oriented" therapists seemed to maintain equilibrium by establishing a constant proportion of output from session to session.

Matarazzo, Weins, and Saslow (1964) found, in a study of therapist-patient verbal interaction, that with two different patients, one therapist, by varying his own verbal participation, maintained a level of verbal activity of 93 percent with each patient. The other therapist

studied showed a constant rate of verbal participation of approximately 19 percent across 12 psychotherapy sessions regardless of the patient output. These results are clearly in line with those cited above of Lennard and Bernstein (1960).

In a study of content-free verbal behavior in contrived psychotherapy groups, Timmons, Rickard, and Taylor (1960) found that experimenters can become nearly equivalent stimuli to the patients by following simple content-free rules. The frequency and duration of a patient's verbal activity was not affected by the presence of different experimenters.

Salzberg (1962), in a study of the effect of therapist activity level and direction of action on group psychotherapy patients, found that therapist's silence led to significantly more interaction (patient-patient conversation) than did talking by the therapist. However, methodological limitations of Salzberg's study restrict the generalization of these results to other psychotherapy groups.

The main limitation in Salzberg's study is that the four experimental treatments were not distributed throughout all sessions. The four experimental treatments were (1) silence-redirecting in which the therapist was silent but when asked a question would mention another patient in answering; (2) talking-direct in which the therapist spoke whenever conversation lagged, speaking directly to a patient, and not referring to any other members; (3) silence-direct in which the therapist was silent but when asked a question would speak directly to a patient; and (4) talking-redirect in which the therapist spoke whenever the conversation lagged, but when asked a question would mention another patient in answering. Only combinations of silence-redirecting and

talking-direct were used in the first ten sessions. In the last ten sessions only silence-direct and talking-redirect combinations were used. There was a significant increase in the amount of verbal activity by the group from the first ten to the last ten sessions, but one does not know whether this is due to the experimental conditions or to the possibility that patients talk more in later sessions than earlier ones. Other problems in design are also left unsolved. If the study is examined in terms of total verbal activity it can be shown that inclusion of the therapists' responses in the group total led to significantly more verbal activity for sessions in which the therapist was talking than for sessions in which he was silent. If one considers the fact that during the talking-direct condition the responses of the group averaged only six seconds each, it would appear verbal activity may have reached a saturation point. In addition, if one takes into account the fact that the therapist averaged 99.1 responses per half hour, it is obvious that group interaction will be reduced. If the therapist spends approximately one-third of the time talking directly to group members and they spend approximately one-third of the time responding to him, only a limited amount of time is left for group interaction.

Several studies have attempted to get at the meaning of verbal activity to the patient.

Matarazzo, Saslow, Weins, Weitman, and Allen (1964) found that headnodding by the therapist resulted in increases in interviewee speech duration. This, coupled with the previous findings that interviewers' speech duration caused increased interviewee speech duration, led the authors to speculate that the increases are due to

more subject satisfaction when the interviewer is more active.

The study cited earlier by Sechrest and Barger (1961) indicates that the amount of help the patient feels he received, the contribution the patient feels he made to the session, and the perceived relevance of a session are related to the patients' verbal participation in the session.

Although not working with therapy groups, Knutson (1963) found that quiet and vocal groups had differences in degree of satisfaction with their work, in initial progress, and in the quality of their work. The vocal groups tended to express greater satisfaction with their production, participation, and leadership than the quiet groups. On the other hand, the quality of the work (preparing a public health pamphlet) was superior in the quiet group. At least initially, verbal fluency seemed to be the sole identifying mark of leadership. They also pointed out that successful leadership in these two types of groups (quiet and vocal) seemed to require different characteristics.

In Lennard and Bernstein's study it was found that patients rated those sessions in which there was a high verbal output by the therapists as proceeding "more easily." Patients indicated dissatisfaction with the sessions in which there was a low verbal output by therapists.

All of these studies demonstrate the utility of the non-content aspects of verbal behavior in gaining more insight and knowledge into the therapeutic process. Although a body of knowledge is being built up and theories proposed about these variables in individual psychotherapy and non-therapy two-person interactions and groups, research at this level in group psychotherapy has only recently begun. Therefore,

it seems that an extension of some of the theories used in individual psychotherapy and non-therapy two-person interaction and non-therapy groups to group psychotherapy would be particularly profitable.

The equilibrium theory of Chapple and Coon (1942) appears to be singularly useful in the research of the effects of verbal participation on the group process and, more particularly, the effects of changes in the therapists' verbalizations upon the verbal behavior of the group. Concerned almost exclusively with the verbal interaction of individuals and groups, the theory states that a group is in equilibrium if its interaction rates are constant within clearly defined limits, and if, after a disturbance takes place, the rates return to their previous values. The longer a state of equilibrium is maintained the more stable this state becomes.

The process of adjustment which takes place within a group after a disturbance is marked by cyclical fluctuations on at least five measures: (1) frequency of interaction--number of times interactions take place; (2) amount of interaction--length of time spent interacting; (3) origin-response ratio--proportion of actions originated to the number responded to; (4) rhythm of interaction rate--characteristic relationship of periods of action and silence; (5) degree of synchronization or adjustment in interaction--degree to which interruptions and failures to respond occur. When the equilibrium is upset, members may interrupt each other often, may become angry and unable to work together, or may let many silences occur. As the group gradually regains its equilibrium the range of fluctuations on these variables decreases and the rhythm of routine interactions becomes more constant.

The Present Study

The purpose of this study, then, is to investigate two aspects of

verbal behavior in the group psychotherapeutic process. Two major aspects of its meaning will be studied. First, the major purpose of this study will be to explore the effects of variations in the therapists' verbal activity on the verbal activity in an ongoing psychotherapy group. Secondly, this study will seek to determine the extent to which verbal participation affects the patient's perception of himself, the therapist, and other members of the group.

As discussed earlier, Lennard and Bernstein (1960) and Matarazzo, Weins, and Saslow (1964) suggested that verbal interaction in the psychotherapy session operates on an equilibrium model and that the therapist's verbal activity is an important factor in maintaining the equilibrium of the system. Chappel and Coon's theory provides the conceptual tools for testing whether the therapists' verbal participation serves the same function in group psychotherapy that it does in individual psychotherapy.

One concern of this study is that the therapist in group psychotherapy provides a major stabilizing role primarily through his verbal behavior. Patients are typically people who lack the capacity for effective interaction or who are unable to adapt to new situations readily without help. Therefore, the patients in group psychotherapy may often find themselves in some difficulty interacting with other patients and lack the ability to get themselves out of it. It generally falls upon the therapist to remedy such situations.

If the therapist is limited in this hypothesized role, the group may show marked changes in the normal pattern of verbal interaction. As the group equilibrium becomes disrupted the equilibrium of each of the members will tend to be upset, causing affective changes in the members which will lead to further disruption.

When the therapist resumes normal interaction the group should return to its normal state. The recovery of the normal interactional pattern would seem to be partly a function of the duration of the disruptive conditions. If such conditions were to prevail long enough the group would either stabilize at a new level or break up completely.

It is further hypothesized that group members' satisfaction with the group is a function, not only of their own level of verbal participation, but also of the other group members' verbal level and the level of therapist activity. That is, they tend to judge groups in which the verbal activity level is high as more satisfactory than groups with a lower level of verbal output. Further, group members may feel that the relevance of group discussion and the amount the therapist contributes is a function of the amount of verbal participation of the therapist. All of this is based on the assumption that group members expect to talk about their own problems, hear others' problems, and expect the therapist to contribute toward an understanding and solution of their problems. Therefore, they should see themselves, the group, and the therapist as functioning more in line with their purpose when verbal output is higher.

More specifically, the following hypotheses are advanced:

Hypothesis I

When the therapists' verbal participation is reduced by planned periods of silence, the equilibrium of the group will be disrupted to the extent that significant changes will occur on the following non-content verbal interaction variables:

- (a) Frequency of verbal responses
- (b) Duration of verbal responses
- (c) Frequency of silences
- (d) Duration of silences
- (e) Frequency of interruptions

Hypothesis II

When the therapists' verbal participation is reduced by planned periods of silences, the longer the periods of silence the more disruptive they will be to the equilibrium of the group.

Hypothesis III

When the therapists' verbal participation returns to normal following sessions in which their verbal participation has been restricted, the equilibrium of the group will be re-established at a level more similar to the base rate level than to the level of the sessions in which the therapists' verbal participation has been restricted.

Hypothesis IV

When the therapists' verbal participation is reduced by planned periods of silence, significant increases will occur on measures of patient anxiety, depression, and hostility in the group.

Hypothesis V

Patients' perceptions of the amount of help received from the group, the amount they contributed to the group, and their own overall effectiveness in handling their problems will vary positively with changes in the amount of their own verbal responses.

Hypothesis VI

Patients' perceptions of the amount of benefit each patient received from the group will be a function of the amount of each patient's verbal participation.

Hypothesis VII

Patients' perceptions of the amount of help the group received and the amount the group contributed will vary positively with the amount of the group's verbal activity.

Hypothesis VIII

Patients' perceptions of the therapists' contribution to the group and the degree to which the therapists kept the group discussion on relevant problems will vary positively with the amount of therapists' verbal participation in the group.

CHAPTER 2

METHOD

The general design of this study involved an analysis of the effect of planned changes in the therapists' verbal activity (specified periods of silence) on verbal participation and mood in two ongoing psychotherapy groups. The relationships between the patient's verbal participation in the group and his perceptions of himself, the therapists, and other group members, were also investigated. Since the hypotheses were made without reference to type of group, e.g., types of patients in the group, number of patients in the group, etc., the two groups were used to explore, to a limited degree, the extent of the generalizability of the hypotheses across groups. No predictions were made about the differences between the groups and consequently there were no planned comparisons of the two groups.

In order to evaluate the effect of the therapists' activity on verbal participation and mood, six consecutive sessions in each group were used. The first two were used to establish base rates of responding. In the third session the therapists were silent for two periods of 20 minutes each, and in the fourth session were silent for a continuous period of 55 minutes. Each silent period was preceded and followed by a 15-minute period of normal interaction. The fifth and sixth sessions were employed to evaluate the effects of the experimental sessions on succeeding sessions. Adjective checklists were filled out prior to and at the conclusion of each session and the difference scores were used to evaluate the effect of the experimental sessions.

on mood.

In order to investigate the relationship between verbal participation and the patient's perception of himself, other group members, and the therapist, the six sessions described above, plus the two preceding sessions, were used for the analysis. At the end of each session each group member filled out a 9-item inventory, designed to measure his perceptions of several aspects of the session, e.g., benefit received, amount contributed, etc. The responses to these items were correlated with individual, group, and therapists' verbal activity measures.

Subjects

The subjects for this study were the members of two ongoing outpatient psychotherapy groups in the Psychiatric Outpatient Clinic, Teaching Hospital, J. Hillis Miller Health Center, University of Florida. The patients of each group were heterogeneous with respect to age, sex, and diagnosis (see Table 1).

Groups

The groups met weekly in 90-minute sessions. At the time of this study Group 1 had been meeting for three months and Group 2 for seven months. Membership had been quite stable. Only two patients had been added since the groups were formed. No members were added to or dropped out of either group during the course of the data collection.

Both groups had co-therapists who were clinical psychology interns in the Department of Clinical Psychology, College of Health Related Professions. One intern served as co-therapist in both groups.

Average data from the two base rate sessions indicated that the

groups were quite different on most of the non-content measures of verbal interaction. The mean frequency of verbal responses per minute (FVR) in Group 1 was 8.36. In Group 2 the mean FVR was 5.82. Group 1 had a mean frequency of silences of 13.0 per session, and Group 2 had a mean of 34.5 per session. Interruption occurred at the mean rate of 23 per session in Group 1, and Group 2 had a mean of only one interruption per session.

In the base rate sessions therapists in Group 1 had an average of 161.5 verbal responses per session and talked for a total duration of speaking of 13.6 minutes. In Group 2, for the same sessions, the therapists averaged 176.0 verbal responses per session and a total duration of speaking of 19.8 minutes per session.

Since there were only two base rate sessions, no adequate statistical tests could be made on the differences between the groups. However, across eight sessions for which data were available, Group 1 was significantly lower than Group 2 on FVR and interruptions. There was also a tendency toward significance between the two groups on the frequency of silences in these sessions.

Apparatus

The group meetings were held in an observation room equipped with a one-way vision glass and ceiling microphones. A loudspeaker in the adjoining room allowed observers to hear as well as see the group sessions. All patients were aware that they were being observed from the time the groups were formed. The observers were staff group therapy supervisors and interns of the Department of Clinical Psychology.

The group therapy room held eight patients and two therapists

TABLE I

Composition of Groups: Age, Sex, Education, and Diagnosis

Group 1

Patient #	Sex	Age	Education (years)
11	F	36	14
12	M	22	12
13	M	41	18
14	F	53	14
15	F	24	12
16	F	30	12
17	M	36	12
\bar{x}		34.6	13.4

Group 2

Patient #	Sex	Age	Education (years)
21	M	19	12
22	F	52	12
23	F	42	12
24	M	23	13
25	F	21	10
26	M	40	16
\bar{x}		32.8	12.5

comfortably. The patients and therapists sat in a circle. No special seating order was maintained although some patients seemed to prefer certain locations. The therapists were generally the last ones to enter the room and occupied any available seat.

An Easterline-Argus Series "S", 20 channel, LabGraph Event Recorder was used to record the verbal participation measures of frequency and duration. This is a portable ink-pen type recorder which has a variable speed drive. In recording the durations of verbal responses the speed was set at six inches per minute. This allowed the duration to be measured to the nearest one-half second. The event recorder was operated by a keyboard arrangement which permitted each patient to be assigned a separate channel. In order to record the interaction, the key for the patient speaking was pressed when he began talking and released when he stopped talking.

Since there were never more than ten people in a group, including the therapists, the 20 channels of the event recorder made possible simultaneous recording of the same data by two operators. This permitted a reliability estimate for the recording of duration of verbal responses to be obtained. Samples were taken from the beginning, middle, and end of the first session on which simultaneous recordings were available, covering a period of 40 minutes and 140 responses. A Pearson Product-Moment correlation for duration of responses was $r=.994$. This reliability of measurement was obtained with minimal instruction and training. Since the measurements were found to be highly reliable, the double recording was discontinued.

Measures of Patient Mood and Perceptions

Multiple Affect Adjective Check List (MAACL).--This checklist was used to determine affect changes as a result of events and behavior taking place during the therapy session. The MAACL (Appendix A), constructed by Zuckerman, Lubin, Vogel, and Valerius (1964), is a 132-item adjective checklist which measures immediate, as well as day to day, changes in three moods or affects: anxiety, depression, and aggression. Pre- and post-measures were obtained for each session during the course of the experiment.

The MAACL was chosen as the measure of affect change because of its demonstrated sensitivity to changes in anxiety, depression, and aggression over short periods of time (Zuckerman, et al., 1964) and because of the short time required to administer it (two to three minutes).

There are 132 adjectives on this checklist, 89 of which are scored. The remaining 43 items are buffer items. No word is used in more than one scale. No adjective is considered to be above an eighth grade reading level. There are plus and minus items to each scale. Plus items are scored if the subject checks them; minus items are scored if the subject does not check them.

The anxiety scale of the MAACL was derived from adjectives which were answered differentially by anxious psychiatric patients and non-anxious normals. A cross-validation of the items was done on subjects with hypnotically induced anxiety. A validity study of the scale was done on college students taking the scale on exam and non-exam days. Significant rises in anxiety level were observed on exam days (Zuckerman, 1960). A replication of this study was done by Zuckerman and

Baise (1962) which supported the original findings. Zuckerman, Levine, and Baise (1964) found a significant rise in anxiety scores after subjects were perceptually isolated for a period of six to eight hours. Zuckerman and Lubin (1965) reported an unpublished study in which actors and actresses showed significant reductions in anxiety scores when tested prior to and after a performance. Hankoff, Rudorfer, and Paley (1962) studied the anxiety reducing effects of several drugs and found that chlordiazepoxide and chlorpromazine reduced anxiety scores significantly but meprobamate and placebo did not.

The depression scale was derived from items which severely depressed male patients checked significantly more or less frequently than normal males. The items were cross-validated on severely depressed and normal females. A validation of this scale by Zuckerman, et al. (1964) showed significant increases in depression and anxiety scores of females after viewing a film of detailed procedures in a slaughter house. The fact that the increase for the male subjects was not significant was explained in terms of the differential stimulus value of the film for males and females.

The hostility scale was developed from those items on which there was a significant change in items checked by subjects going from a normal state to a hypnotically induced hostility state. No cross-validation of these items was made. A validation study of the MAACL, focusing on hostility, was done by Zuckerman, Lubin, and Robins (in Zuckerman and Lubin, 1965). Thirty-three VA patients were rated on the Paranoid-Belligerence factor from Lorr's Psychotic Reaction Profile, and the ratings were correlated with the patient's MAACL scores. There was a significant relationship between observed hostility and the MAACL

hostility scale. However, the MAACL anxiety scale was also found to be related to hostility ratings, and it was found that the hostility scale only discriminated at the upper end of the rating scale.

A validation study of the entire MAACL (Zuckerman, et al., 1964) was conducted in which a "surprise exam" threat resulted in significant increases in all three scales. Fake grades also produced significant changes on all scales; but a real exam only caused changes in anxiety.

Zuckerman and Lubin (1965) reported that the MAACL has generally failed to show any differences attributable to age, education, intelligence, or sex in the normal population, but sex differences have been reported among psychiatric patients.

Although the present study involved a psychiatric population, the sex differences are not thought to be of significance because only pre- and post-differences were used in the analysis on which each subject served as his or her own control.

Group Perception Inventory (GPI)

This is a 9-item inventory (Appendix B) designed by the writer to measure the patient's perception of certain aspects of the group psychotherapy sessions as they related to Hypotheses V - VIII. This approach, which involves asking patients rather directly about their "feelings" about the session, is very similar to that of Sechrist and Barger (1961), and several of their items have been modified to fit this inventory. On Items 1 through 7 the patient was instructed to indicate on a 0-12 point scale the number which most accurately reflected his feelings about that session. These questions inquired about (1) amount of help the patient received from the session; (2) amount of help the group received from the session; (3) the contribution the patient made to the

session; (4) the contribution made by the group to the patients' problems; (5) the amount contributed to the session by the therapist; (6) the patient's feeling relative to how he felt before the session; and (7) the relevance of the discussion. Although there was a tendency for the subjects to circle one of the five anchor points on each item (Appendix B), most items received acceptable variance across subjects and across sessions. On Item 8 the subject was asked to rank the group from "those who you think benefited most from today's session to those you think benefited least." On Item 9 the subject was asked to rank the group, including himself, on overall effectiveness in handling everyday tensions and anxieties.

Procedure

The data for this study covered a period of eight consecutive weeks from April 20, 1965, to June 8, 1965.

The MAACL and GPI were introduced to the group in the first session by the Clinical Psychology Department staff member who was the supervisor for the group therapists in that group. The introduction was as follows:

I feel I know most of you since I have been observing this group from its beginning. The purpose of my coming in today is to ask your cooperation in a research project we are undertaking.

From where we sit on the other side of the window, and I'm sure from where you sit in here, it is very difficult sometimes to tell how the other person feels about something despite what they say they feel or by the way they look like they feel. What we are primarily interested in is simply getting an idea before the group starts and at the end of the group of how you feel at that moment.

Now if any of you have objections or strong feelings about not participating please feel perfectly free to refuse to do it. The only people who will have access to this information will be the therapists and the rest of the faculty who observe the group. It will take approximately

three or four minutes before and after the group to check off how you feel at that moment. Look the items over, and if you have any objections you will, of course, not have to participate (Pause). Since there are no objections we will probably make this a routine part of the group meeting from now on. Thank you very much for your cooperation.

Each patient was given a clipboard at the beginning of the session containing two copies of the MAACL, for pre- and post-measures, and a copy of the GPI. One copy of the MAACL was filled out when the therapist entered the room, and when the therapist indicated that the session was over, the other copy of the MAACL and the GPI were filled out. The patients were quite cooperative and seemed to understand what was required of them.

Since it was thought that the introduction of the checklist and inventory would temporarily disrupt the normal routine of the group, it was decided that the session in which it was introduced and the session following it would probably not give an adequate estimate of the base rates for frequency, duration, silence and interruption data. Therefore, it was planned to use the two sessions following those as base rate sessions.

The six sessions following these two were used to collect the data for the evaluation of the effect of planned changes in the therapists' verbal activity on the non-content measures of verbal activity. These sessions were as follows: Two base rate sessions (B1 and B2), two experimental sessions (E1 and E2), and two follow-up sessions (F1 and F2).

The diagram below (Figure 1) outlines the data collection sequence.

In B1 and B2 the checklist and inventory data were collected and the verbal participation measures were recorded, but no experimental manipulations were introduced.

Date							
4-20	4-27	5-4	5-11	5-18	5-25	6-1	6-8
MAACL and GPI Begun	Adjusted to Routine	B1	B2	E1	E2	F1	F2

Figure 1. Data Collection Sequence.

In E1, for two periods of 20 minutes each, between the three 15-minute periods of normal therapist interaction, the therapists were silent (see Figure 2).

Period				
1	2	3	4	5
Normal Therapists' Interaction	Therapists Silent	Normal Therapists' Interaction	Therapists Silent	Normal Therapists' Interaction
0-15 min.	16-35 min.	36-50 min.	51-70 min.	71-85 min.

Figure 2. Experimental Session #1 (E1).

Silence periods of 20 minutes were chosen because it was observed during preliminary investigation that both co-therapists occasionally remain silent for periods of over 10 minutes but very rarely as long as 20 minutes.

In E2 the therapists were silent for a continuous period of 55 minutes between periods of normal therapists' interaction of 15 minutes each (see Figure 3).

Period				
1	2	3	4	5
Normal Therapists' Interaction	Therapists Silent	Therapists Silent	Therapists Silent	Normal Therapists' Interaction
0-15 min.	16-----		70 min.	71-85 min.

Figure 3. Experimental Session #2 (E2).

During all sessions the therapists were instructed to make all interactions verbal, e.g., not to use gestures alone but use them only in conjunction with some verbal interaction. During the silent periods the therapists were to speak only when asked a direct question. This occurred only two times, and both times the therapist responded in half-second responses. Due to difficulties in timing the shift between silence and talking, there was some talking by the therapists during silence periods in E1; however, in Group 1 it amounted to only eight times for a total duration of 10.5 seconds, and in Group 2 the therapists spoke only six times for a total of 6.5 seconds. Since most of these responses occurred in the last minute of the silence periods, they are felt to be of no real consequence. At no time during or after the experimental sessions did any patient seem aware of the planned silences.

In E2 in Group 2, one of the therapists was absent because of illness. One therapist is absent for various reasons, from time to time, and the groups are accustomed to it. When this occurred previously, no disruption was evident as the groups appeared to function in a normal manner with only one therapist.

Only 85 minutes of each session were scheduled to be recorded. The remaining five minutes were used for the group members to fill out the MAACL and GPI. The sessions were considered as beginning when the

members all completed the forms and ending when they began filling out the final forms. The mean length of the sessions for both groups was 83'13". Since the sessions did not always last 85 minutes, the final period of the session (Period 5) was reduced accordingly.

Dependent variables in the study were (1) frequency of verbal responses; (2) duration of verbal responses; (3) frequency of silences; (4) duration of silences; (5) frequency of interruptions; and (6) patient moods and perceptions measured by response to the MAACL and the GPI.

Operational Definition of Terms

Verbal Response.--A verbal response was defined as extending from the beginning of a statement by a group member or therapist until someone else began to speak. However, if more than five seconds elapsed after someone finished responding, and the same person began speaking again, this was counted as another response. This was necessary because counting the time from one person's response till the next person began speaking would artificially inflate the duration variable. Five seconds was chosen as a cut-off point because Matarazzo (1962) reported that in his interview situations, if a patient responds to his own utterance, after a pause, he does so within five seconds 65 percent of the time. When frequency of verbal responding is reported for group data it is reported as frequency per minute (FVR). FVR always included the therapists' responses.

Duration.--Duration of a verbal response was the elapsed time during which a patient or therapist was actually speaking, including pauses of less than five seconds. When referring to duration of group data this is the average duration of a verbal response (DVR) for the session. DVR also included therapists' verbal responses. Total duration

refers to the sum of the duration of all verbal responses, and is reported in relation to individuals only.

Interruption.--An interruption occurred when two or more people talked at once. This variable was difficult to record because of an apparent tendency of most people to anticipate an interruption and subsequently pause as the other person interrupts. This would not show up on the event record as an interruption. Occasionally an agreeing response such as "yes" or "uh huh" was probably recorded as an interruption because it was said while someone else was talking. These facts tend to make the interruptions the least reliable of the variables recorded. However, the operational definition used seemed the least arbitrary and consequently the most satisfactory.

Statistical Treatment of the Data

Early in the data collection process the problem of what to do about missing data came up as several absences occurred. Since Hypothesis I was based on an equilibrium theory, it was not theoretically proper to use any statistical way of estimating the missing data. This is clearly illustrated by the fact that there is no difference, on the variables measured, between B1 and B2 in either group even though members were absent in both groups on those days. This suggests that the other members and the therapists "make up" for the missing member and maintain verbal interaction at the same level. Therefore, there seemed to be no proper way to estimate what a missing member would have done if he had been in the group. This fact alone ruled out the use of most parametric tests as the evaluation of correlated means requires two scores of some kind for every subject.

Another factor that went against the use of parametric tests was the high variance from subject to subject and within the same subject across sessions. Because of this it was felt that the parametric tests would not be able to make the best use of these data. Another reason, of course, was the small number of patients in each group.

When more than two group means were compared the analysis was made by the non-parametric Friedman 2-Way Analysis of Variance Test (χ^2_r) (Friedman, 1937). This test allowed the group means to be compared without reference to individual members, which was desired. In order to compute χ^2_r , each of the six sessions used in the evaluation of Hypothesis I was broken into five-minute intervals. This gave 17 estimates of the session mean and allowed a session to be ranked 17 times in relation to any others involved in a particular analysis. Also, this method controlled for any systematic changes that might occur in the verbal activity rate during a session, as each session was compared with all others on the same time period.

Siegel (1956) states that the χ^2_r test compares very favorably with the most powerful parametric test, the F test. Reviewing a study by Friedman comparing the two tests, Siegel says "...it would be difficult or even impossible to say which is the more powerful test...." Hypothesis IV was also evaluated by the χ^2_r test. However, in evaluating this hypothesis, missing data were supplied. The best estimate of a subject's MAACL scores was considered to be the average of his other scores.

Because of the small N involved, the correlations required for the evaluation of Hypotheses V - VIII were computed by the Spearman Rank Correlation Coefficient (r_s). Siegel (1956) reports the efficiency of

r_s "...when compared with the most powerful parametric correlations, the Pearson r , is about 91 percent."

Unless otherwise specified, the p values reported in this study are for a one-tailed test.

CHAPTER 3

RESULTS

The results of the various statistical analyses, as they relate to the specific hypotheses, will be presented in this chapter. The raw data required for the computation of the various statistical tests are presented in the appendices.

Hypothesis I

When the therapists' verbal participation is reduced by planned periods of silence, the equilibrium of the group will be disrupted to the extent that significant changes will occur on the following non-content verbal interaction variables:

- (a) Frequency of verbal responses
- (b) Duration of verbal responses
- (c) Frequency of silences
- (d) Duration of silences
- (e) Frequency of interruptions

This hypothesis received some support in both groups. However, the groups were not only affected to a different degree by the therapists' silences, but showed the effects in different ways.

(a) Frequency of Verbal Responses (FVR).--In order to evaluate the effect of planned silences by the therapists on frequency of verbal responses per minute, each Experimental session (E1 and E2) was compared with the Base Rate sessions (B1 and B2). The periods of the Experimental sessions in which the therapists were silent (E1: Periods 2 and 4; E2: Periods 2, 3, and 4) were compared with the corresponding periods in the Base Rate sessions. Also, in separate analyses, the Base Rate

sessions and the Experimental sessions were compared with the Follow-Up sessions (F1 and F2).

There was no significant difference between B1 and B2, when compared by the Wilcoxon Matched-Pairs Signed-Ranks Test, in either Group 1 or Group 2. The difference between F1 and F2 was not significant in either group when compared by the same test. However, in both groups E2 was significantly lower than E1 (Group 1, $p < .05$; Group 2, $p < .01$; two-tailed tests).

In Group 1 a Friedman 2-Way Analysis of Variance (χ^2_r) involving B1, B2, and E1, was not significant ($p < .50$). Even a comparison of the periods in E1 in which the therapists were silent (Periods 2 and 4), with the same periods in B1 and B2, was not significant ($p < .50$). When B1, B2, and E2 were compared, the Friedman test approached significance ($\chi^2_r = 5.38$; $df = 2$) ($p < .10$), with E2 having the lowest mean. None of the other comparisons approached significance. There was no difference between Base Rate and Follow-Up sessions or between Experimental and Follow-Up sessions.

In Group 2 the Friedman test between B1, B2, and E1 was not significant ($p < .95$). The direct comparison of Periods 2 and 4 of E1 with Periods 2 and 4 of B1 and B2 was also not significant ($p < .70$). However, an analysis of B1, B2, and E2 was highly significant ($\chi^2_r = 18.73$; $df = 3$) ($p < .001$), with E2 again having the lowest mean. The Experimental sessions differed significantly from the Follow-Up sessions ($\chi^2_r = 25.03$; $df = 3$) ($p < .001$). The Base Rate sessions also differed significantly from Follow-Up sessions, with the Follow-Up sessions having the highest mean FVR, but the level of significance was lower ($\chi^2_r = 11.42$; $df = 3$) ($p < .01$).

Figure 4 shows session means of FVR for the Base Rate, Experimental, and Follow-Up sessions for both groups. Appendix C shows FVR in five-minute intervals for the six sessions.

(b) Average Duration of Verbal Responses (DVR).--Since no correlation between frequency and DVR has been reported in the literature, Spearman Rank Order correlations between these two variables were computed for both groups. The correlations ranged from $-.842$ to $-.971$, with an average correlation of $-.922$.

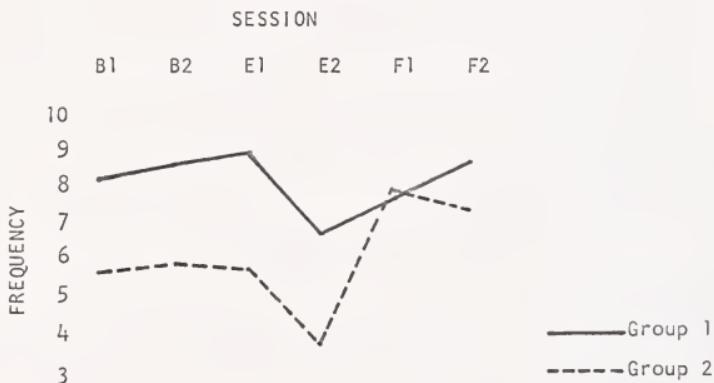


Figure 4. Average Frequency of Verbal Responses Per Minute (FVR) Across Six Sessions for Group 1 and Group 2.

Although this correlation was known to exist between average duration and frequency, the duration measure was included in the analysis because of the possibility that the relationship might change during the experimental sessions.

Because of the high correlation between these variables, the analysis of DVR data yielded essentially the same results as the FVR data. However, there were some exceptions, as noted below.

In Group 1 the comparison of B1, B2, and E1 on DVR was reduced from the $p < .10$ level of FVR to $p < .30$. The difference between E1 and

E2, which was significant on FVR ($p < .05$), was not significant on DVR.

In those instances in Group 1 where there was a significant relationship or tendency toward significance ($p < .10$) on the FVR data, the analyses of DVR yielded a lower level of significance. This relationship did not hold in Group 2 where the significance levels that

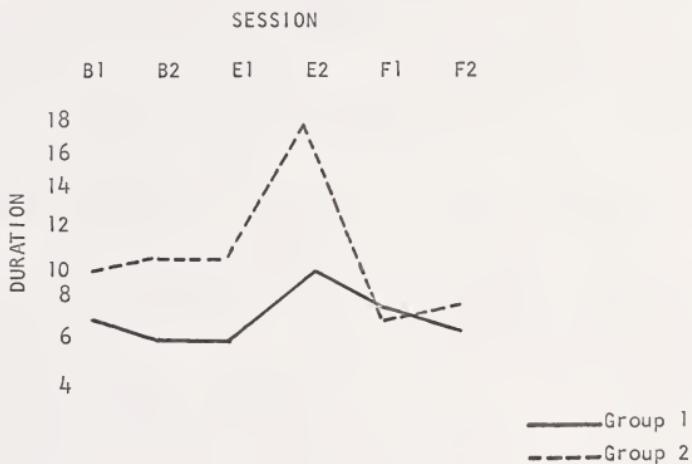


Figure 5. Average Duration of Verbal Responses Per Minute (DVR) Across Six Sessions for Group 1 and Group 2.

were obtained for the FVR data were maintained in the DVR data. Figure 5 shows session means of DVR for Base Rate, Experimental, and Follow-Up sessions for both groups. Appendix D shows DVR in five-minute intervals for the six sessions.

(c) Frequency of Silences.--Because of the relative infrequency of silences and interruptions in a session, breaking these data into frequency per five-minute interval, as was done with FVR and average duration data, resulted in too many empty cells for a meaningful analysis. Therefore, silence and interruption data were analyzed over

the five periods of the session rather than 17 five-minute intervals.

In Group 1 the Friedman test comparing B1, B2, and E2 for frequency of silences was significant ($p < .02$), with E2 having the highest frequency. There was no difference between B1 and B2. There were also significantly more silences in the Follow-Up sessions than in Base Rate sessions ($p < .02$) in Group 1.

For the same analyses in Group 2 there were no significant differences. However, there was a tendency for more silences to occur during E1 than in the Base Rate sessions ($\chi^2_r = 4.90$; $df = 2$) ($p < .10$). There was also a tendency for more silences to occur in F2 than in the Base Rate sessions ($\chi^2_r = 5.70$; $df = 2$) ($p < .10$).

(d) Duration of Silences.--The length of silences occurring in Group 1, session E2, were significantly longer than those occurring in the Base Rate sessions ($\chi^2_r = 10.00$; $df = 2$) ($p < .001$). E1 did not differ significantly from the Base Rate sessions, and the Base Rate sessions did not differ significantly from the Follow-Up sessions.

In Group 2 there were no significant differences across sessions in the average duration of silences (see Figure 7).

(e) Frequency of Interruptions.--There were no significant differences in any of the comparisons of the frequency of interruptions per session. However, when Period 1 was not included in the analysis for Group 1, a Friedman analysis of B1, B2, and E1 was highly significant ($\chi^2_r = 9.62$; $N = 4$; $k = 3$) ($p < .005$), with E1 having the highest mean. Leaving Period 1 out of the analysis seems justified here as this period should not differ from the Base Rate sessions since this was prior to any experimental conditions.

Interruptions occurred so infrequently in Group 2 that no statistical test was made on those data.

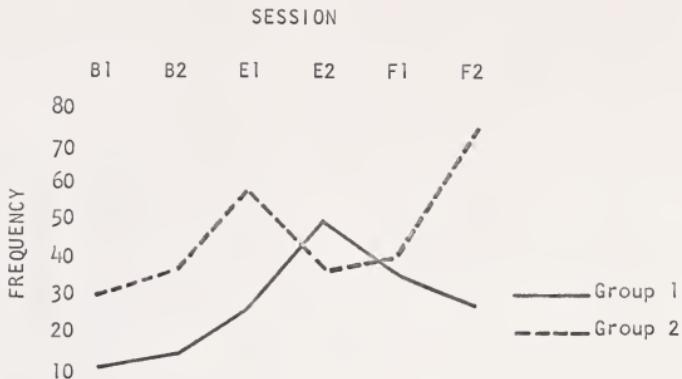


Figure 6. Average Frequency of Silences Per Session for Group 1 and Group 2.

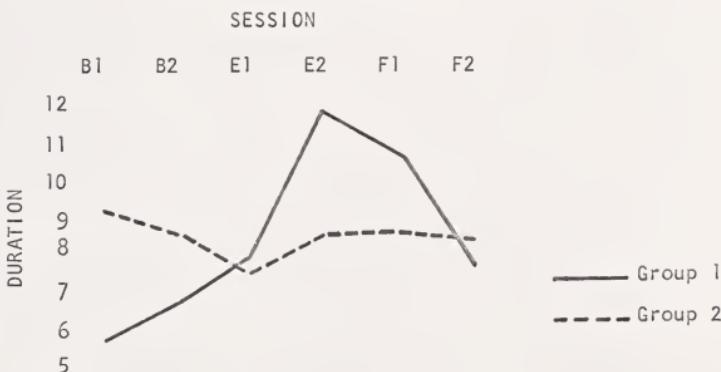


Figure 7. Average Duration of Silences Per Session for Group 1 and Group 2.

Hypothesis II

When the therapists' verbal participation is reduced by planned periods of silences, the longer the periods of silences the more disruptive they will be to the equilibrium of the group.

This hypothesis is generally supported by the data in both groups.

In Group 1, E1 was significantly different from the Base Rate sessions on only one variable--interruptions, whereas E2 was significantly different from the Base Rate sessions on both frequency ($p < .02$) and duration ($p < .001$) of silences and approached significance ($p < .10$) on FVR.

The differences were much more striking in Group 2. E1 did not differ from the Base Rate sessions on any variable. There was a tendency for more silences to occur in E1 than in the Base Rate sessions ($p < .10$), but this was the only variable on which E1 approached a significant difference from the Base Rate sessions; however, E2 was significantly lower than the Base Rate sessions on FVR and DVR ($p < .001$). Differences on FVR and DVR are considered to be the best indications of disruption as they tend to be the most stable from session to session.

Hypothesis III

When the therapists' verbal participation returns to normal following sessions in which their verbal participation has been restricted, the equilibrium of the group will be re-established at a level more similar to the base rate level than to the level of the sessions in which the therapists' verbal participation has been restricted.

This hypothesis was generally supported by the data in Group 2 with the exception of silences. This hypothesis was largely untestable in Group 1 as few significant changes occurred in either E1 or E2. In Group 1, however, Figure 1 shows that after E2 (which was the lowest)

mean) there was a gradual return to the Base Rate level. On frequency of silences and duration of silences the differences between the Base Rate and Follow-Up sessions were significant, whereas the differences between Experimental and Follow-Up were not significant. This is contrary to the hypothesis.

In Group 2, although the Follow-Up sessions were significantly different from the Base Rate sessions on FVR ($\chi^2_r = 11.42$; $df = 3$) ($p < .01$), the difference was of greater significance between Follow-Up and Experimental sessions ($\chi^2_r = 25.03$; $df = 3$) ($p < .001$). In addition, a comparison of B1, B2, and F2 by the Friedman test was not significant. In Group 2 there were no significant differences in duration of silences across sessions. However, in frequency of silences the comparison of Base Rate and Follow-Up sessions approached significance ($\chi^2_r = 7.62$; $df = 3$) ($p < .10$), whereas the comparison of Experimental and Follow-Up was significant ($\chi^2_r = 8.10$; $df = 3$) ($p < .05$). Although no adequate statistical test can be made between these session means because of a small N, E1 appears to differ from E2 and F1 appears to differ from F2. Therefore, the Experimental-Follow-Up comparison is somewhat misleading. Consequently, it was not possible to determine adequately the relative differences between Base Rate-Follow-Up and the Experimental-Follow-Up sessions, although the difference appeared to be greater between the former.

Hypothesis IV

When the therapists' verbal participation is reduced by planned periods of silence, significant increases will occur on measures of patient anxiety, depression, and hostility in the group.

This hypothesis was not supported by the data as none of the measures was significant in either group.

One person in each group was left out of this analysis because each missed three or more sessions. For those members who were absent two times or less, their mean pre- and post-MAACL scores, determined from the sessions they attended, were substituted for the sessions missed. Each subject was then ranked across the six sessions by change scores on the MAACL for each of the three affect variables--anxiety, depression, and hostility. A Friedman 2-Way Analysis of Variance test was calculated for each variable and none was found to be significant (see Figures 8 and 9).

In addition, the change scores for each individual on the three variables were summed for each session both algebraically and without regard to sign. Separate analyses by the Friedman test on these data were also not significant.

Hypothesis V

Patients' perceptions of the amount of help received from the group, the amount they contributed to the group, and their own overall effectiveness in handling their problems will vary positively with changes in the amount of their own verbal responses.

This hypothesis was generally supported by the data.

In the evaluation of this hypothesis, as in Hypothesis IV, one patient from each group was excluded from the analyses because of poor attendance. Since this hypothesis related primarily to level of verbal participation in general and not directly to the experimental sessions, all eight sessions on which data were available were used.

The analysis of this hypothesis involved relating each individual's verbal participation measures to his responses to GPI items and not to measures relating specifically to a particular group; consequently the subjects in both groups were pooled and one overall analysis was made.

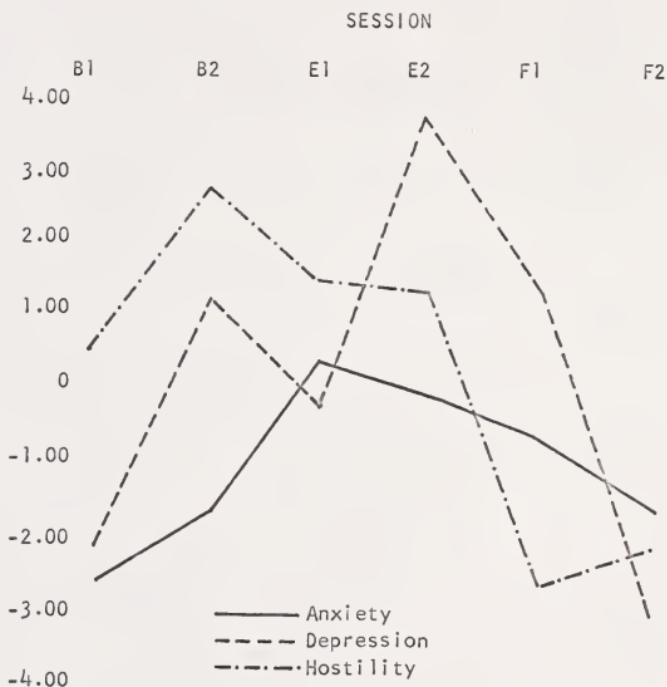


Figure 8. Mean MAACL Change from Pre-Group to Post-Group Testing on Anxiety, Depression, and Hostility in Group 1.

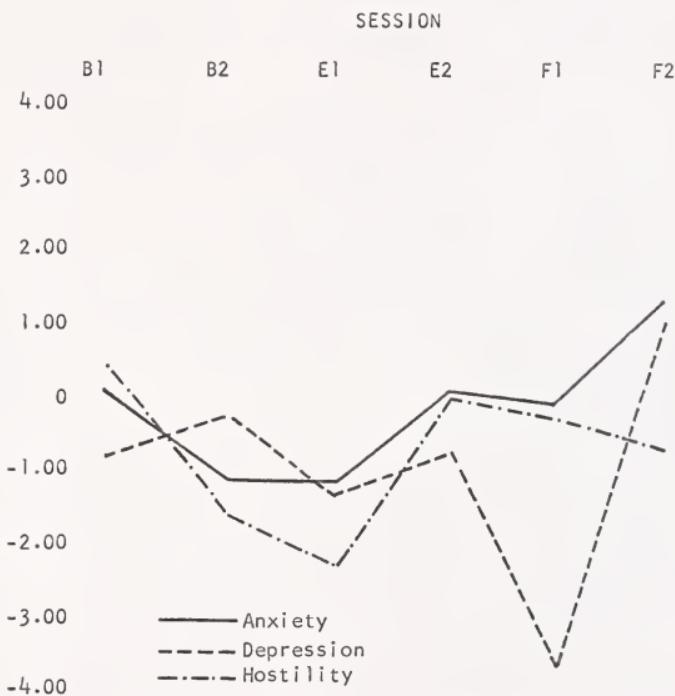


Figure 9. Mean MAACL Change from Pre-Group to Post-Group Testing on Anxiety, Depression, and Hostility in Group 2.

Although there is generally a high correlation in a given session between the rankings of the patients on frequency of verbal responses and total duration of time spoken, there is little correlation from session to session between a patient's frequency and his total duration. In other words, the person who talks the highest number of times in a session is generally the one who talks longest, but the session in which a given patient talks the highest number of times may not be the session in which he talks longest. Since these measures may be getting at different aspects of the subject's participation in the group, both were used in the evaluation of this hypothesis.

When Spearman Rank Order correlations were computed between the amount of help patients felt they received (GPI, Item 1) and the total duration of their verbal responses over eight sessions, it was found that they were highly correlated. Of the eleven correlations computed between these two variables, five were significant beyond $p < .05$. The combined probability of this many significant correlations occurring by chance is $p < .0001$. Therefore, the null hypothesis of no relationship is rejected.

However, there does not appear to be a significant relationship between frequency of verbal responses in a session and the amount of help patients feel they received. Out of the 11 correlations computed between these variables, only one was significant beyond $p < .05$.

Both frequency and total duration of verbal responses are related to the amount the patients felt they contributed to the group (GPI, Item 3). Four of 11 of the correlations between frequency and "amount contributed" were significant (beyond $p < .05$). The combined probability of this occurring by chance is $p < .002$. Three of 11 correlations

between a patient's frequency of verbal responses and "amount contributed" were significant (beyond $p < .05$). This is significant beyond $p < .02$.

In evaluating the relationship between total duration of speaking and effectiveness in handling their problems (GPI, Item 9), the subject's rankings of himself in relation to the rest of the group for the sessions he attended were ranked, and then compared to the ranks of the total duration of speaking, for that subject for those sessions. Although only one patient's correlation between total duration and "effectiveness" was significant ($p < .01$), there appeared to be an interesting relationship between these variables. Of the 11 patients for which this correlation was computed, nine were negative. The two patients who did not have negative correlations had an $r=.000$, as those patients did not change their ratings of themselves on any session. One of these patients ranked himself last every time and the other ranked herself in the middle every time.

Hypothesis VI

Patients' perceptions of the amount of benefit each patient received from the group will be a function of the amount of each patient's verbal participation.

The evaluation of this hypothesis involved averaging the rankings by the patients of who benefited most to who benefited least in each session (GPI, Item 8). The averages were ranked and correlated with actual ranks of each patient's actual verbal participation measures for that session.

This hypothesis was supported by the data on both groups as 7 out of 15 correlations were significant beyond $p < .05$. The combined probability of 8 out of 15 correlations occurring by chance is $p < .0001$.

Of the correlations between total duration of verbal responses

over the sessions and rankings of "benefit", 4 out of 15 were significant ($p < .01$).

Hypothesis VII

Patients' perceptions of the amount of benefit each patient received from the group will be a function of the amount of each patient's verbal participation.

This hypothesis was not supported by the data.

In order to evaluate this hypothesis the group averages on response to GPI, Item 2, were ranked across eight sessions and then correlated with the FVR for each session.

In Group 1 the correlation between FVR and ratings of the amount of help the group received was not significant ($r_s = -.357$). However, in Group 2 the correlations, although not significant ($p < .10$, two-tailed test) approached significance in the direction opposite that predicted ($r_s = -.659$).

In Group 1 there was not a significant correlation between average ratings of the "amount the group contributed" and FVR. In Group 2 there was a significant relationship between the amount the group contributed and FVR ($p < .05$, two-tailed test). Again the correlation was negative ($r_s = -.771$).

Hypothesis VIII

Patients' perceptions of the therapists' contribution to the group and the degree to which the therapists kept the group discussion on relevant problems will vary positively with the amount of therapists' verbal participation in the group.

This hypothesis was only partially supported by the data.

This hypothesis was evaluated in the same manner as Hypothesis VII above. In Group 1 the correlation between the amount the patients felt the therapists contributed (GPI, Item 5) and the total duration of

therapists' verbal responses was $r_s = .589$, which was not significant. However, perceived therapists' contribution and frequency of therapists' verbal responses ($r_s = .645$) was significant ($p < .05$).

In Group 2 the correlation between therapists' contribution and total duration of therapists' verbal responses ($r_s = .726$) was significant ($p < .05$). Frequency of therapists' verbal responses and perceived therapists' contribution was not significant ($r_s = .333$).

In neither Group 1 nor Group 2 was there a significant relationship between the degree to which patients felt the therapists kept the discussion on relevant problems (GPI, Item 7) and either the total duration of therapists' verbal responses or the frequency of therapists' verbal responses.

CHAPTER 4

DISCUSSION

Group Equilibrium

The results of this study lend further support to the concept of group equilibrium as described by Chapple and Coon (1942) by demonstrating its applicability to the group psychotherapeutic process. These authors state that a group is in equilibrium if its interactions are constant within clearly defined limits, and if after a disturbance takes place the rates return to their previous values. Constant rates were clearly evident in this study as the base rate sessions in the two groups did not differ from each other on any of the variables on which measures were obtained, i.e., frequency of verbal responses, average duration of verbal responses, frequency and duration of silences, and frequency of interruptions. This is in spite of the fact that in both groups different patients were absent on the two days.

The latter part of Chapple and Coon's requirement for a group in equilibrium can be demonstrated by what happened after the Experimental sessions. After session E2 there was a return, or tendency to return, to the base rate level on practically every variable. In every case, except on silences, the Follow-Up sessions were more similar to the Base Rate sessions in both groups than the Experimental sessions were. The fact that silences did not show a similar return toward base rate levels may have been the result of the therapists being more comfortable

with silences in E2 as a result of their experience in E1, and may not reflect what the data would look like if this possible contaminant could have been controlled. This will be discussed further in the following section. Therefore, the groups used in this study satisfied the general requirements for equilibrium as defined above. The fact that the groups maintained constant rates on the previously mentioned variables even when different group members were absent simplified the task of assessing the hypothesized role of the therapists in group equilibrium.

Effect of Therapists' Verbal Behavior on Group Equilibrium

In the first experimental session when the therapists' verbal participation was reduced by two planned periods of silence of 20 minutes each, the only significant effect in either group was that Group 1 had significantly more interruptions in that session than in the Base Rate sessions. Therefore, patients were able to maintain the established pattern of verbal interaction for these relatively short periods of time. Since the therapists did not participate verbally during these periods, this suggests that departures from the base rate level of interaction for short periods by the therapists may increase patient interaction. This is in line with the results of a study by Salzberg (1962) in which he found that therapist's silence in group psychotherapy led to significantly more interaction (patient-patient conversation) than did talking by the therapist. His silence periods were of only ten minutes' duration.

The importance of the length of the time the therapist does not participate verbally in the session is indicated by the results of the second Experimental session in which the therapists were silent for a

continuous period of 55 minutes. In Group 2 there was a significant reduction in the frequency of verbal responses per minute and a corresponding significant increase in the duration of the responses. There were, however, no significant effects on the frequency and duration of silences. This indicates that although the level of verbal interaction was reduced, it was not brought about by long or frequent silences. This means that the percentage of the time someone was talking in E2 did not vary from the Base Rate sessions. This clearly indicates that the therapists are responsible for most of the interaction between patients in this group.

In Group 1 the effect seemed to be quite different. Significantly more silences occurred in the second Experimental session than in the base rate sessions. Although not significant there was a tendency ($p < .10$) toward fewer verbal responses per minute during this session than in the base rate sessions. However, the average duration of responses did not change. Therefore, any reduction in the verbal interaction was the result of more and longer silences, rather than reducing interaction by increasing duration of responses as in Group 2. Presumably, a number of these silences would normally have been terminated by the therapist, but when the therapist did not respond the group was able to keep the interaction going at a level which was only slightly reduced. Group 2 seemed to lack this ability.

The results in E2, in both groups, indicate that when the therapists do not verbally participate in the sessions for relatively long periods that there is a reduction in the verbal interaction rather than an increase. Therefore, it appears that Salzberg's results (1962) may not be generalized beyond short periods (10 to 20 minutes) of therapist silence.

There was evidence that suggested that some of the effects found in the longer silence period may have been due to a carry-over effect from the first Experimental session. Appendix A (Group 1) shows that for E2, Periods 1 and 2 have lower mean FVR than in E1. There were also more silences in these two periods of E2 than in E1 (Appendix E). One would not expect any differences in these periods as the conditions, to this point, were the same for both sessions.

Although a carry-over effect cannot be ruled out, several factors obviate its importance. The first is that the difference between these two periods of E1 and E2 on FVR are not significant. The second is that there were apparently few differences between E1 and the Base Rate sessions and consequently there should be only minimal carry-over effects. The last, and probably most significant, factor relates to comments by the therapists about their own performance in these sessions. All of the therapists were surprised at what happened in E1, and the general feeling was that they did not need to participate verbally as much as they had in previous sessions. Consequently, in E2, from remarks made by the therapists, they seemed to be more prone to let a silence continue than they would have previously. This would not only account for the high number of silences occurring in the first two periods of the session in Group 1, but also explain why the number of silences continued at a high rate through the Follow-Up session in both groups.

From the previous discussion it is clear that both groups did not respond in the same way to similar experimental conditions. The two groups used in this study provided a good contrast in rates of verbal interaction. Consequently, the results pointed up the need to control

this variable in future research, as base rates seem to be important in understanding the effect of the therapists' verbal activity in group psychotherapy. The data on the two groups in this study suggest that in a highly verbal group the verbal interaction patterns may be relatively unaffected by prolonged therapists' silences, or if they are affected, they seem to be able to recover base rate patterns of verbal interaction quickly. On the other hand, a low verbal group may have a greater dependence on the therapists for maintaining verbal interaction patterns, and when the therapists are silent for extended periods the group interaction rate is reduced significantly.

In Group 2 there apparently was a carry-over effect after E2 because the Follow-Up sessions had a significantly higher FVR than the Base Rate sessions. However, when B1, B2, and F2 were compared, they were not significantly different, indicating the recovery of Base Rate levels on this variable within two sessions.

Changes in Mood

Hypothesis IV relating to expected affect changes, measured by the MAACL, during the sessions in which the therapists' verbal participation was reduced, was not supported.

This suggests that even when the pattern of verbal interactions of the group (Group 2) were changed significantly, there were no consistent affective changes in the members of the group. Other evidence tended to support this result. On the GPI, Item 6, which asked how the patient felt at the end of the session relative to how he felt when he came, three of five patients in E2, Group 2, said they felt better, and the two others said they felt the same way as when they came.

A Rank Order correlation was computed for each patient between his total change score on the three variables of the MAACL and his responses to Item 6 of the GPI, and in spite of the low variance on both variables, 3 of the 11 correlations were significant. The probability of this occurring in the absence of a relationship is $p < .02$. This seems to add some weight to the validity of both measures.

Several factors seemed to work against a significant negative change, i.e., feeling worse, which was predicted. One factor is that it is thought that the difference scores from pre- and post-testing on the MAACL were attenuated by the fact that during Period 5 the therapists were allowed to interact freely, thereby partially restoring equilibrium, especially in E2, and consequently probably resolved some of the feelings that may have been aroused earlier in the session. Since the GPI was also administered at the end of the session it was probably affected in the same way.

Another factor that may have worked against significance is suggested by Zuckerman's report (1960) of high and significant correlations over an eight-day period with the MAACL in a psychiatric population, whereas with normals the correlation for the same period was low and insignificant. This suggests that because psychiatric patients have a higher base rate on this test than normals, that they may be relatively insensitive to anything but major changes in affect, at least as measured by this instrument. Although some patients did change markedly in a given session, the average changes that occurred were quite small. Pre- and post-changes were also attenuated by the fact that given a high initial response the freedom to vary upward is reduced. However, the fact is that not only did patients not change much,

but they did not all change in the same direction. Some felt better and others felt worse, e.g., more anxious, depressed, or hostile.

Patients' Verbal Participation and Their Perceptions of Self, the Group, and the Therapists

The tests of Hypothesis V indicate positive relationships between both the amount of help a patient felt he received from the session and the amount he felt he contributed to the session with how much he actually talked during the session.

This tends to confirm the results of Sechrest and Barger (1961), who obtained the same results.

However, the present data, which included both frequency and total duration of verbal responses, suggests a refinement of this relationship. Total duration of verbal activity was highly related to perceived benefit from the session, whereas frequency of verbal responses was not. If we can assume that when a person has a high total duration with a low frequency of responses he is probably talking about himself, whereas when frequency is high he is spending a lot of time interacting with others and may or may not be talking about himself, an interesting hypothesis is suggested. That is, patients may feel they receive more from a group session when they talk about themselves more. However, they feel that they are contributing to the session when both talking about themselves and interacting with others.

The negative correlations between "overall effectiveness in handling one's problems" and total duration were unexpected. The initial interpretation of these results was that the more a patient talked, the less effective he felt in relation to the rest of the group. However, this did not seem to fit with the findings above. When examined in the

group context a more tenable explanation was discovered. That is, when a patient is silent others are usually telling about themselves in one way or another and, consequently, he may feel that in relation to other patient's problems, his are not very bad. Therefore, it may be that it is not only what the patient is doing that determines his perceptions of his effectiveness in handling his problems, but also of what the other patients are doing.

According to the tests of Hypothesis VI, patients tend to rate other patients as benefiting from the session according to the amount those participate in it verbally. However, here again there seems to be a distinction between frequency and duration as the correlations of frequency and rankings of benefit were much more significant ($p < .0001$) than total duration and the same rankings ($p < .01$). This suggests a stronger relationship between the frequency and benefit than duration and benefit. It appears that patients do not see the one who talks most, e.g., long monologues, etc., as the one who benefits most, but the one who interacts most, e.g., talks the highest number of times.

As discussed earlier, patients tend to feel they benefit more when they talk more (high total duration). However, this suggests that they do not tend to perceive other patients as benefiting more when they talk more, but rather when they interact more.

The results relating to Hypothesis VII are quite confusing as there was no consistent pattern across groups or within groups. There was a tendency in Group 2 for patients' perceptions of the amount of help the group received and FVR to be negatively correlated.

There was a significant ($p < .05$) negative correlation ($r_s = -.771$) between the group responses to "amount the group contributed" and FVR.

In Group 1 the correlation was positive but not significant.

The findings on this hypothesis generally do not coincide with the other results obtained. The lack of significance suggests that the patients were responding to different aspects of the session when answering the question or were interpreting the GPI item differently. The significant negative correlation in Group 2 cannot be adequately explained within the limits of these data.

The relationship between therapists' verbal participation and patients' perceptions of the therapists' contribution to the group appears to be a positive one. As one would suspect, the relationship between frequency and duration is not as clear in these comparisons as it was in some of the others. In Group 1 correlation between frequency and perceived therapists' contribution and total duration and perceived therapists' contribution both approached significance ($p < .05$). However, in Group 2 the correlation between total duration and perceived therapists' contribution was significant ($p < .05$), whereas the correlation between frequency and perceived therapists' contribution was insignificant. These correlations suggest that whenever the therapist is talking he is perceived by the patients as contributing to the group, whether the duration of his responses is long or short. Therefore, frequency and duration may measure much of the same thing as far as therapists' verbal responses are concerned.

The hypothesized relationship between the degree to which patients feel the therapists kept the discussion on relevant problems and both frequency and duration of the therapists' verbal responses was not supported. One reason for this may be the fact that most patients tended to rate the discussion high on relevancy throughout the sessions.

It may be that patients tend to perceive any behavior by the therapist as relevant to the problems of the group.

Summary

The results of this study show that Chapple and Coon's concept of group equilibrium is applicable to psychotherapy groups. Base Rate values for the non-content verbal interaction variables which were studied varied relatively little. After the Experimental sessions had made significant changes on several variables there was a return, or tendency to return, to the Base Rate level in following sessions on all of the variables except silences.

The evaluation of the effect of the therapists' verbal behavior on group equilibrium indicated that group base rates play an important part in determining the therapists' affects on the group. In a high verbal group the therapist does not seem to play as important a role in maintaining normal verbal interaction patterns as he does in a low verbal group. At least in this study when the therapists' verbal participation was reduced by planned periods of silence, there was a significant reduction in group interaction in the low verbal group (Group 2); whereas in the high verbal group (Group 1) there was a slight, but insignificant, reduction.

The present results indicate that in evaluating the effects of planned therapists' silences on the group an important variable is the length of the silences. In this study two 20-minute periods of therapists' silence between three normal periods of 15 minutes each had little effect on either group, as the patients were able to maintain previous base rate levels without the therapists. The only

exception to this was in Group 1 which had significantly more interruptions on this day. However, in the following session in which the therapists were silent for a period of 55 minutes between two normal periods of 15 minutes, several significant changes occurred. Group 1 had significantly more and longer silences in this session than in the Base Rate sessions and slight reduction in group interaction. Group 2 showed a significant reduction in verbal interaction. Therefore, therapist silence in group psychotherapy seems to have different effects on the group depending on its duration.

The hypothesized changes in mood, or affect, during the Experimental sessions was not supported. Although several methodological problems may have contributed to the lack of significance, there were no uniform changes among the group members. Some made positive and some made negative changes. It appears that patients' affective responses to changes in the verbal interaction patterns of a group differ from individual to individual. Some patients may be upset and others may feel better.

A positive relationship was found between the amount of help a patient felt he received from the group and his total duration of speaking in a session. There was no relationship between the amount of help a patient received from the session and the frequency of his verbal responses. Since a high frequency of verbal responses tends to indicate a high interaction with others in the group, it appears that patients may feel they benefit most not from interacting at a high rate, but talking at a high rate. There was also a significant relationship between both an individual's frequency and duration of verbal responses and the amount he felt he contributed to the group.

Patients' perceptions of their own overall effectiveness in handling their problems tended to be negatively correlated with the total duration of their verbal responses. The positive relationship suggested from this is that the more other group members talk, the more effective the patient feels. This tends to confirm a reason often given by patients in group psychotherapy as to the benefit they receive from the group. It is that by being in group they find out that they are not the only ones with problems, and that some people have problems worse than their own.

There was a significant positive relationship between the rankings of the group on who benefited most to who benefited least and their actual rank on both frequency and duration of verbal responses. However, the relationship between frequency and "benefited" was much stronger than duration and "benefited." This suggests that patients feel that other patients receive the most benefit from the group when they interact the most.

Patients' perceptions of the amount of help the group received and the amount the group contributed did not appear to be meaningfully related to the group's frequency of verbal responses per minute. One explanation for this probably lies in the ambiguousness of these items on the instrument used.

There was a positive relationship between the frequency and duration of the therapists' verbal responses and the amount the patients felt they contributed to the group. However, the degree to which patients felt that the therapists kept the discussion on relevant problems, and the amount of therapists' verbal participation in the session, did not appear to be related.

Suggestions and Implications for Future Research

The most obvious implications for future research resulting from this study seems to be a need for further knowledge of and control of base rate variables of verbal interaction in group psychotherapy research. Because of the stability of these variables, they may provide a much more reliable and effective way of detecting change in the group over time, or as a result of experimental manipulations, than more traditional subjective approaches. Just as Cook (1964) suggests that percentage of silence in an individual psychotherapy session is an index to the "climate" of the session, so may several of the base rate variables used in this study indicate the same thing about group psychotherapy. In such case, a knowledge of base rates and the ways in which given variables effect them would add immeasurably to the understanding of group psychotherapy.

The present study indicates that the comparison of groups with different base rates would be profitable. Knutson's study (1963) of quiet and vocal non-therapy groups provides the general model, and in fact asks many questions that would be applicable to group psychotherapy, e.g., patients' satisfaction with the group, patients' progress, etc.

Because of the differences found in this study with regard to the length of the therapists' silences, a more detailed study of this variable is needed. There was an indication that short silences have little effect on the group level of verbal interaction and may even facilitate patient-patient interaction; whereas long silences reduce interaction. This, of course, suggests that the relationship between the amount of group interaction and length of planned therapists'

silences is curvilinear. The optimal amount of therapist's activity for the best group interaction is not known. Although some inroads are being made into an understanding of the influence of the therapist's verbal activity in groups, the relationship is obviously complex and needs considerably more research.

Several interesting relationships were suggested by the data regarding perceived benefit and verbal participation. One of the most interesting was the suggested relationship between frequency and durations of an individual's responses. This study indicates that they are probably getting at somewhat different aspects of the patient's verbal performance in the group and, therefore, both should be used. Several studies have used only frequency and may have seriously limited their findings by so doing.

CHAPTER 5

SUMMARY

Two aspects of verbal behavior in group psychotherapy were investigated in the present study. First, based on Chapple and Coon's theory of group equilibrium, and the results of Lennard and Bernstein, and Matarazzo, Weins, and Saslow with regard to the role of the therapist in maintaining equilibrium in individual psychotherapy, several hypotheses were advanced about equilibrium in group psychotherapy. In general, it was hypothesized that the group therapist plays a major stabilizing role in the group through his verbal behavior, and when he is restricted in verbal activity the equilibrium of the group will be upset and increases will occur in patient anxiety, depression, and hostility.

Secondly, several hypotheses were made about the relationship between patients' verbal participation in group psychotherapy and their perceptions of themselves, the therapist, and other members of the group.

Six consecutive 85-minute sessions were used to evaluate the effects of the therapists' verbal activity on group verbal participation and mood in two ongoing heterogeneous psychotherapy groups. Both groups had co-therapists. The first two sessions were used to establish base rates on the following non-content verbal interaction variables: Frequency and duration of verbal responses, frequency and duration of silences, and frequency of interruptions. In session three, both therapists were silent for two periods of 20 minutes each. In session four the therapists

were silent for a period of 55 minutes. The fifth and sixth sessions were used to evaluate the effect of the experimental sessions on succeeding sessions. Difference scores, obtained from pre-group and post-group testing with an adjective checklist (MAACL) were used to evaluate the effect of the experimental sessions on mood.

The relationship between verbal participation and "patients' perceptions" was investigated by correlating patient responses to a group perception inventory, administered in each session with individual, group, and therapists' measures of verbal participation.

The results of this study indicate that Chapple and Coon's concept of group equilibrium is applicable to psychotherapy groups. Constant base rates on non-content measures of verbal interaction were clearly evident in both groups. Following the departure from these rates during the experimental sessions there was a return to near previous values on all variables except frequency of group silences.

The effect of therapist silences on group verbal activity must be interpreted in the light of at least two variables: Base rate of verbal responses in the group and length of the therapists' silences. Longer silences tend to reduce group interaction, whereas shorter silences have very little effect on the established patterns of verbal interaction. Generally speaking, the "high verbal" group showed few significant effects from the long silence, whereas the "low verbal" group showed marked changes in both frequency and duration of responses which are the most stable of the base rate variables.

There were no significant changes in anxiety, depression, and hostility as a result of the experimental manipulations.

A positive relationship was found between the amount of help a patient felt he received from a session and his total duration of speaking in that session. There was also a positive relationship between the amount a patient felt he contributed and both the duration and frequency of his verbal responses. There was a highly positive relationship between the rankings of benefit from the session and the rankings of the patients on frequency of verbal responses. The possibility that frequency and duration may measure different aspects of a patient's participation was discussed. There was also a positive relationship between the amount the therapists talked and the amount the patients thought the therapists contributed to the group.

A P P E N D I C E S

APPENDIX A

MAACL

Name _____

Below you will find words which describe different kinds of moods and feelings. Check the words which describe how you feel now. Some of the words may sound alike, but we want you to check all the words that describe your feelings. Work rapidly.

<input type="checkbox"/> active	<input type="checkbox"/> cheerful	<input type="checkbox"/> enraged	<input type="checkbox"/> hopeless
<input type="checkbox"/> adventurous	<input type="checkbox"/> clean	<input type="checkbox"/> enthusiastic	<input type="checkbox"/> hostile
<input type="checkbox"/> affectionate	<input type="checkbox"/> complaining	<input type="checkbox"/> fearful	<input type="checkbox"/> impatient
<input type="checkbox"/> afraid	<input type="checkbox"/> contented	<input type="checkbox"/> fine	<input type="checkbox"/> incensed
<input type="checkbox"/> agitated	<input type="checkbox"/> contrary	<input type="checkbox"/> fit	<input type="checkbox"/> indignant
<input type="checkbox"/> agreeable	<input type="checkbox"/> cool	<input type="checkbox"/> forlorn	<input type="checkbox"/> inspired
<input type="checkbox"/> aggressive	<input type="checkbox"/> cooperative	<input type="checkbox"/> frank	<input type="checkbox"/> interested
<input type="checkbox"/> alive	<input type="checkbox"/> critical	<input type="checkbox"/> free	<input type="checkbox"/> irritated
<input type="checkbox"/> alone	<input type="checkbox"/> cross	<input type="checkbox"/> friendly	<input type="checkbox"/> jealous
<input type="checkbox"/> amiable	<input type="checkbox"/> cruel	<input type="checkbox"/> frightened	<input type="checkbox"/> joyful
<input type="checkbox"/> amused	<input type="checkbox"/> daring	<input type="checkbox"/> furious	<input type="checkbox"/> kindly
<input type="checkbox"/> angry	<input type="checkbox"/> desperate	<input type="checkbox"/> gay	<input type="checkbox"/> lonely
<input type="checkbox"/> annoyed	<input type="checkbox"/> destroyed	<input type="checkbox"/> gentle	<input type="checkbox"/> lost
<input type="checkbox"/> awful	<input type="checkbox"/> devoted	<input type="checkbox"/> glad	<input type="checkbox"/> loving
<input type="checkbox"/> bashful	<input type="checkbox"/> disagreeable	<input type="checkbox"/> gloomy	<input type="checkbox"/> low
<input type="checkbox"/> bitter	<input type="checkbox"/> discontented	<input type="checkbox"/> good	<input type="checkbox"/> lucky
<input type="checkbox"/> blue	<input type="checkbox"/> discouraged	<input type="checkbox"/> good-natured	<input type="checkbox"/> mad
<input type="checkbox"/> bored	<input type="checkbox"/> disgusted	<input type="checkbox"/> grim	<input type="checkbox"/> mean
<input type="checkbox"/> calm	<input type="checkbox"/> displeased	<input type="checkbox"/> happy	<input type="checkbox"/> meek
<input type="checkbox"/> cautious	<input type="checkbox"/> energetic	<input type="checkbox"/> healthy	<input type="checkbox"/> merry

APPENDIX A (Continued)

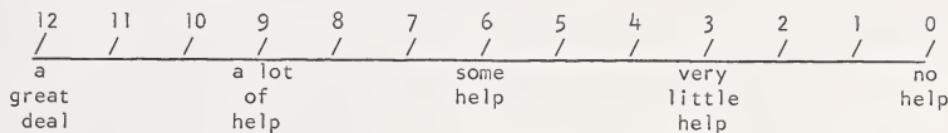
<u>mild</u>	<u>quiet</u>	<u>stormy</u>	<u>tormented</u>
<u>miserable</u>	<u>reckless</u>	<u>strong</u>	<u>understanding</u>
<u>nervous</u>	<u>rejected</u>	<u>suffering</u>	<u>unhappy</u>
<u>obliging</u>	<u>rough</u>	<u>sullen</u>	<u>unsociable</u>
<u>offended</u>	<u>sad</u>	<u>sunk</u>	<u>upset</u>
<u>outraged</u>	<u>safe</u>	<u>sympathetic</u>	<u>vexed</u>
<u>panicky</u>	<u>satisfied</u>	<u>tame</u>	<u>warm</u>
<u>patient</u>	<u>secure</u>	<u>tender</u>	<u>whole</u>
<u>peaceful</u>	<u>shaky</u>	<u>tense</u>	<u>wild</u>
<u>pleased</u>	<u>shy</u>	<u>terrible</u>	<u>willful</u>
<u>pleasant</u>	<u>soothed</u>	<u>terrified</u>	<u>wilted</u>
<u>polite</u>	<u>steady</u>	<u>thoughtful</u>	<u>worrying</u>
<u>powerful</u>	<u>stubborn</u>	<u>timid</u>	<u>young</u>

APPENDIX B

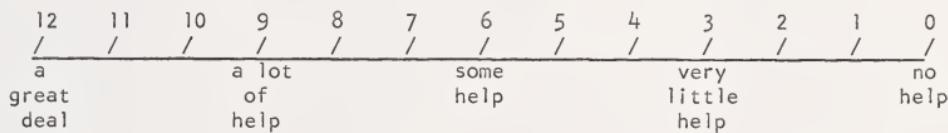
GPI

On Questions 1-7 please circle the number on the scale that indicates best your feelings about today's session. You may circle any number and not just those with words or phrases under them. Use the words and phrases to help you determine the number that best describes your feelings.

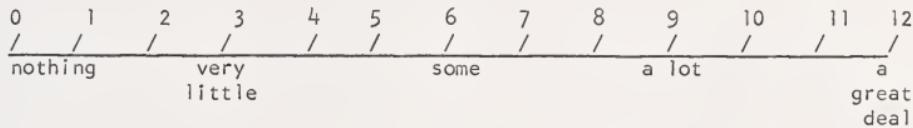
1. From today's session I received:



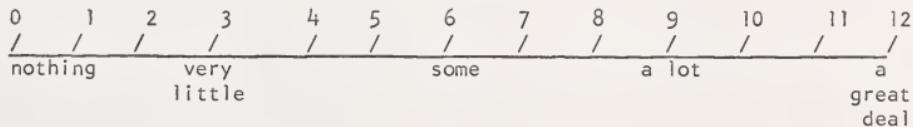
2. From today's session the group received:



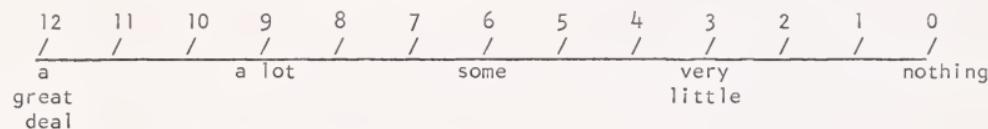
3. In today's session I contributed:



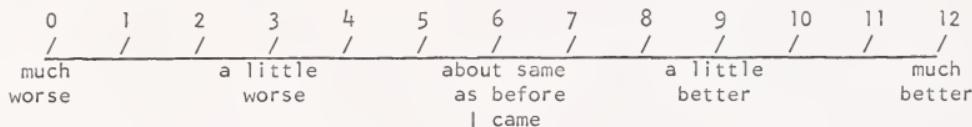
4. In today's session the group contributed:



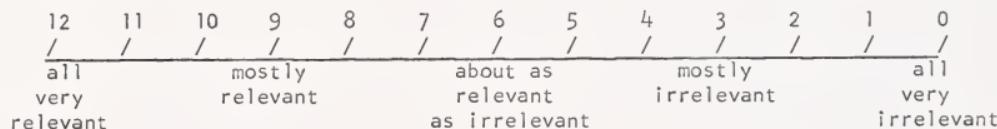
5. In today's session the therapists contributed:



6. After today's session I feel:



7. In today's session the therapists kept the discussion on problems that were:



8. Rank the group (including yourself) from those who you think benefited most from today's session to those who you think benefited least. (Let 1 be "benefited most" and 6 be "benefited least.")

(Patients' names were listed alphabetically here.)

9. Rank the group (including yourself) from those who you think are most able to deal effectively with everyday tensions and anxieties to those you think are least able to do so. (Let 1 be "most effective" and 6 be "least effective.")

(Patients' names were listed alphabetically here.)

APPENDIX C

Average Frequency of Verbal Responses Per Minute (FVR)
in Five-Minute IntervalsGroup 1

Intervals	Sessions					
	B1	B2	E1	E2	F1	F2
1	11.20	5.00	7.60	8.60	9.20	5.60
2	7.20	7.40	6.00	6.00	9.80	8.20
3	10.00	12.20	8.80	3.80	8.60	4.00
4	7.60	7.40	9.40*	5.80*	10.00	4.60
5	7.60	7.60	9.20*	0.80*	7.60	8.80
6	7.80	10.20	12.80*	5.80*	9.60	6.60
7	10.20	9.00	8.60*	6.80*	11.60	11.20
8	11.60	5.00	11.20	9.20*	4.00	9.60
9	10.20	10.60	14.60	7.80*	9.00	10.00
10	8.40	10.00	6.60	11.00*	2.60	7.80
11	7.60	8.20	8.00*	4.60*	3.60	8.40
12	9.40	6.80	9.00*	5.40*	1.60	4.40
13	5.40	13.20	6.00*	7.40*	8.40	10.40
14	5.80	7.20	8.80*	8.60*	8.40	9.80
15	4.40	6.00	6.60	10.20	8.00	13.20
16	5.00	13.00	7.40	6.00	13.40	11.00
17	8.00	8.18	9.41	6.74	7.84	10.90
Mean	8.08	8.65	8.82	6.74	7.84	8.50

*Indicates periods of therapists' silence.

APPENDIX C (Continued)

Group 2

Sessions

Intervals	B1	B2	E1	E2	F1	F2
1	10.40	10.00	7.00	8.00	10.00	7.80
2	8.20	6.40	4.80	5.60	7.20	9.40
3	3.40	7.00	5.80	3.00	10.00	10.20
4	5.80	8.20	2.60*	2.00*	8.60	7.20
5	5.40	4.60	7.20*	2.40*	6.40	5.80
6	3.60	4.60	3.00*	3.00*	9.00	10.80
7	7.20	5.40	7.20*	4.80*	11.40	5.60
8	3.20	1.80	7.40	3.20*	3.40	4.00
9	5.60	3.60	6.00	1.80*	4.20	8.00
10	4.20	5.40	5.40	1.80*	9.80	9.00
11	8.20	5.20	7.80*	3.20*	9.00	5.00
12	6.00	7.80	4.60*	2.60*	10.60	5.60
13	4.60	8.20	8.00*	4.20*	6.40	6.20
14	6.20	6.00	3.60*	2.40*	7.60	4.00
15	6.20	5.20	3.80	3.80	8.20	8.80
16	3.20	6.60	8.40	6.20	6.40	10.00
17	5.71	4.69	5.74	3.62	7.98	5.53
Mean	5.71	5.92	5.74	3.62	7.98	7.23

*Indicates periods of therapists' silence.

APPENDIX D

Average Duration (in seconds) of a Verbal Response in
Five-Minute IntervalsGroup I

Sessions

Intervals	B1	B2	E1	E2	F1	F2
1	4.41	11.54	6.53	3.56	5.70	9.96
2	7.36	6.32	8.17	6.95	4.79	5.82
3	5.16	4.02	4.34	11.71	5.99	11.70
4	6.86	6.80	5.90*	8.79*	4.76	11.83
5	6.80	6.53	5.25*	56.00*	6.97	6.49
6	7.03	5.05	4.36*	7.59*	4.81	7.14
7	5.10	6.33	6.78*	5.06*	4.39	4.72
8	4.67	11.80	4.80	5.96*	14.08	5.74
9	5.25	5.38	4.09	6.54*	5.32	5.51
10	6.73	5.65	8.68	5.16*	19.42	7.29
11	7.16	6.89	6.86*	8.24*	14.25	6.30
12	5.71	7.76	6.30*	8.13*	15.12	12.98
13	9.98	4.20	9.33*	7.64*	5.54	5.56
14	9.12	8.10	5.22*	6.59*	6.49	5.07
15	12.82	9.57	7.74	5.24	5.84	3.70
16	11.50	4.26	6.85	8.93	4.09	4.25
17	6.52	6.48	5.84	7.68	7.97	4.87
Mean	7.19	6.86	6.30	9.99	7.97	7.00

*Indicates periods of therapists' silence.

APPENDIX D (Continued)

Group 2

Sessions

Intervals	B1	B2	E1	E2	F1	F2
1	4.76	5.33	6.16	6.49	4.59	6.32
2	5.35	6.98	14.00	8.98	5.86	3.99
3	17.21	6.10	9.38	17.83	5.09	3.95
4	10.50	4.95	14.85*	23.70*	5.76	7.36
5	8.23	12.07	5.54*	15.17*	7.84	8.19
6	13.78	11.83	19.77*	19.70*	5.60	5.09
7	7.79	8.65	7.58*	11.77*	5.18	8.89
8	17.62	30.28	7.50	18.28*	17.35	12.83
9	8.77	12.72	7.87	31.94*	12.55	6.19
10	13.40	11.00	11.45	33.17*	4.53	5.00
11	5.98	10.44	5.38*	14.59*	5.70	8.62
12	7.92	5.88	11.26*	20.27*	4.86	6.95
13	11.76	5.83	6.05*	10.43*	7.77	7.05
14	8.56	9.13	15.11*	23.96*	6.66	13.61
15	6.91	10.00	15.58	15.37	5.93	5.45
16	15.88	8.00	6.68	7.42	9.05	4.94
17	5.25	12.13	10.26	17.37	7.14	6.72
Mean	9.98	10.08	10.26	17.37	7.14	7.13

*Indicates periods of therapists' silence.

APPENDIX E

Frequency of Silences Occurring During Five
Periods of Each SessionGroup 1

Session

<u>Period</u>	B1	B2	E1	E2	F1	F2
1	6	4	12	19	6	7
2	2	6	5	9	8	7
3	0	1	0	2	11	1
4	3	3	4	13	8	5
5	0	1	6	7	3	8
Total	11	15	27	50	36	28

Group 2

Session

<u>Period</u>	B1	B2	E1	E2	F1	F2
1	7	10	11	10	12	17
2	8	15	24	9	6	12
3	5	5	6	5	8	8
4	6	3	11	11	11	22
5	5	5	5	3	4	15
Total	31	38	57	38	41	74

APPENDIX F

Average Duration of Silences for Five
Periods of Each Session

Group 1

Period	Session					
	B1	B2	E1	E2	F1	F2
1	5.33	6.38	7.92	11.24	6.58	11.07
2	5.75	8.17	7.50	22.50	7.25	7.00
3	0	6.50	0	8.00	6.50	7.00
4	5.83	6.17	10.12	12.27	25.82	7.10
5	0	5.00	6.40	5.92	8.25	6.95
Mean	5.64	6.44	7.98	11.99	10.88	7.78

Group 2

Period	Session					
	B1	B2	E1	E2	F1	F2
1	7.57	9.55	8.36	7.15	8.58	6.76
2	8.43	8.63	6.88	11.67	6.08	7.25
3	6.30	8.50	6.42	7.40	7.94	9.69
4	8.83	8.83	7.04	10.05	7.23	9.52
5	13.75	6.33	6.88	6.00	12.83	7.43
Mean	8.98	8.37	7.12	8.45	8.53	8.13

APPENDIX G

Frequency of Interruptions Occurring During
Five Periods of Each Session

Group 1

<u>Period</u>	<u>Session</u>					
	B1	B2	E1	E2	F1	F2
1	2	2	0	0	2	0
2	6	6	19	5	7	4
3	4	12	19	8	2	8
4	2	8	11	9	2	3
5	0	4	5	5	3	8
Total	14	32	54	27	16	23

Group 2

<u>Period</u>	<u>Session</u>					
	B1	B2	E1	E2	F1	F2
1	0	0	2	0	2	0
2	0	0	0	0	2	2
3	0	0	0	0	0	0
4	2	0	0	1	5	0
5	0	0	3	1	0	0
Total	2	0	5	2	9	2

APPENDIX H
Percentage of Session Time Spent Talking

Group I

<u>Intervals</u>	<u>Sessions</u>					
	B1	B2	E1	E2	F1	F2
1	.823	.962	.827	.510	.873	.930
2	.883	.780	.817	.695	.782	.795
3	.860	.818	.637	.742	.858	.780
4	.868	.838	.925*	.850*	.793	.907
5	.862	.827	.805*	.933*	.883	.952
6	.913	.858	.930*	.733*	.770	.785
7	.867	.950	.972*	.573*	.848	.882
8	.903	.983	.897	.913*	.938	.918
9	.893	.950	.995	.850*	.798	.918
10	.942	.942	.955	.947*	.842	.948
11	.907	.942	.915*	.632*	.855	.882
12	.895	.880	.945*	.813*	.403	.952
13	.898	.925	.933*	.942*	.775	.963
14	.882	.972	.765*	.945*	.908	.828
15	.940	.957	.852	.892	.778	.813
16	.958	.923	.845	.893	.913	.780
17	.870	.875	.916	.831	.814	.887
Mean	.892	.905	.878	.806	.814	.878

*Indicates periods of therapists' silence.

APPENDIX H (Continued)

Group 2

Sessions

Intervals	B1	B2	E1	E2	F1	F2
1	.825	.888	.718	.865	.765	.822
2	.732	.745	.887	.838	.703	.625
3	.975	.712	.750	.892	.848	.685
4	.840	.677	.643*	.790*	.825	.883
5	.713	.925	.665*	.607*	.837	.792
6	.827	.907	.988*	.985*	.840	.917
7	.935	.778	.910*	.942*	.983	.830
8	.940	.908	.925	.975*	.983	.855
9	.818	.763	.787	.958*	.878	.825
10	.938	.990	.840	.995*	.740	.750
11	.817	.905	.700*	.778*	.855	.718
12	.792	.765	.863*	.878*	.858	.648
13	.902	.797	.807*	.730*	.828	.728
14	.913	.913	.907*	.958*	.843	.862
15	.737	.867	.987	.973	.810	.800
16	.847	.880	.935	.767	.965	.823
17	.847	.950	.832	.871	.848	.620
Mean	.847	.845	.832	.871	.848	.775

*Indicates periods of therapists' silence.

APPENDIX I

Frequency of Verbal Responses of Patients and Therapists
for Eight Consecutive SessionsGroup 1

Patients

<u>Date</u>	<u>11</u>	<u>12</u>	<u>13</u>	<u>14</u>	<u>15</u>	<u>16</u>	<u>17</u>	<u>Therapists</u>
4-20	93	213	34	44	4	100	41	161
4-27	--	183	3	32	58	18	117	147
5-4	122	228	42	25	--	41	--	209
5-11	160	248	67	50	--	30	52	114
5-18	180	240	48	--	8	47	120	89
5-25	--	202	49	--	37	20	167	81
6-1	68	171	7	53	34	65	102	130
6-8	108	221	45	--	42	77	147	89

Group 2

<u>Date</u>	<u>21</u>	<u>22</u>	<u>23</u>	<u>24</u>	<u>25</u>	<u>26</u>	<u>Therapists</u>
4-20	134	101	57	30	69	2	159
4-27	110	70	--	20	80	1	150
5-4	56	33	151	--	57	35	145
5-11	131	73	--	--	68	35	207
5-18	110	116	--	47	42	55	84
5-25	--	68	85	24	32	60	26
6-1	136	267	--	52	1	12	176
6-8	138	108	--	67	13	37	249

APPENDIX J

Total Duration (in seconds) of Verbal Responses of
Patients and TherapistsGroup 1

Patients

<u>Date</u>	<u>11</u>	<u>12</u>	<u>13</u>	<u>14</u>	<u>15</u>	<u>16</u>	<u>17</u>	<u>Therapists</u>
4-20	667.0	1261.0	103.0	126.0	6.0	640.0	193.5	917.5
4-27	---	1612.0	4.0	128.0	361.0	110.5	1550.5	814.0
5-4	969.5	1318.5	621.5	286.0	---	186.5	---	1033.0
5-11	1213.5	1487.5	529.0	214.5	---	112.0	369.5	601.0
5-18	1285.5	1431.0	376.0	---	14.0	175.5	770.0	327.5
5-25	---	1573.0	212.5	---	153.0	78.5	1548.0	402.0
6-1	552.0	1007.0	14.5	206.0	190.0	218.5	989.0	750.5
6-8	586.0	1331.5	241.0	---	403.0	322.0	973.0	660.0

Group 2

Patients

<u>Date</u>	<u>21</u>	<u>22</u>	<u>23</u>	<u>24</u>	<u>25</u>	<u>26</u>	<u>Therapists</u>
4-20	593.0	824.0	284.5	185.0	901.5	2.5	1004.5
4-27	535.5	742.5	2252.0	422.0	727.5	1.5	1685.0
5-4	144.5	113.0	---	---	655.5	352.5	678.5
5-11	575.5	1085.0	---	---	667.5	409.0	1697.0
5-18	674.0	1614.0	---	562.0	232.0	484.0	548.0
5-25	---	925.5	1646.5	319.5	533.0	748.5	90.5
6-1	615.5	1944.5	---	576.0	4.0	52.5	978.5
6-8	529.0	646.0	---	850.5	71.5	342.0	1504.0

APPENDIX K

MAACL Difference Scores for Anxiety, Depression, and Hostility

Group 1ANXIETY*

Patient	B1	B2	E1	E2	F1	F2
11	-5	-4	3	-2.6	-2	-5
12	0	3	0	-4	-2	-4
13	-6	1	-1	5	-3	3
15	-3.7	-3.7	-1	-8	5	-7
16	3	1	0	0	2	1
17	-3.7	-7	1	9	-4	-8

DEPRESSION*

11	-7	4	-2	0.8	11	-2
12	4	4	-1	-3	0	-4
13	-11	1	2	11	-3	2
15	0.8	0.8	-2	0	1	-2
16	2	3	-3	2	4	-4
17	-1.2	-5	4	11	-5	0

HOSTILITY*

11	0	1	1	-0.4	-5	1
12	0	8	0	1	2	-5
13	-1	2	0	1	-4	1
15	1.7	1.7	-1	-5	-1	0
16	3	4	2	2	0	-1
17	-0.3	-1	7	9	-8	-10

*Scores reported to the nearest tenth are estimated data.

APPENDIX K (Continued)

Group 2ANXIETY*

Patient	B1	B2	E1	E2	F1	F2
21	-1	-3	-3	-2.1	-2	-1
22	0	-1	1	+0.1	1	1
24	+0.3	+.03	-5	0	1	4
25	0	-1	1	2	-1	3
26	1	-1	0	0	0	-1

DEPRESSION*

21	-2	3	-3	-3.2	-12	1
22	-2	-2	-1	0.4	-2	2
24	-1.2	-1.2	-6	-1	-4	0
25	2	-1	3	0	1	1
26	0	-1	0	0	-1	0

HOSTILITY*

21	0	-5	-6	-1.5	-1	-1
22	2	0	-1	-0.1	-1	1
24	-1.5	-1.5	-5	0	0	-4
25	1	-1	0	-3	0	0
26	0	0	0	+4	0	0

*Scores reported to the nearest tenth are estimated data.

APPENDIX L

List of Rank Order Correlations Relating to
Hypothesis V

TABLE 2

Rank Order Correlations Between Patients' Perceptions of
Amount of Help They Received (GPI, Item 1)
and Total Duration of Their
Verbal Responses

<u>Patient</u>	<u>r_s</u>	<u>N</u>		<u>Patient</u>	<u>r_s</u>	<u>N</u>	
11	.058	6		21	.748	7	p .05
12	-.463	8		22	.694	8	p .05
13	.695	7	p .05	24	.309	6	
15	.741	6		25	.617	8	
16	.743	8	p .05	26	.697	8	p .05
17	.300	7					

TABLE 3

Rank Order Correlations Between Patients' Perceptions of
Amount of Help They Received (GPI, Item 1)
and Frequency of Their
Verbal Responses

<u>Patient</u>	<u>r_s</u>	<u>N</u>		<u>Patient</u>	<u>r_s</u>	<u>N</u>	
11	.058	6		21	.255	7	
12	-.220	8		22	.848	8	p .01
13	.096	7		24	.123	6	
15	.617	6		25	.617	8	
16	.542	8		26	.436	8	
17	.150	7					

APPENDIX L (Continued)

TABLE 4

Rank Order Correlations Between Patients' Perceptions of Amount They Contributed to the Group (GPI, Item 3) and the Total Duration of Their Verbal Responses

<u>Patient</u>	<u>r_s</u>	<u>N</u>		<u>Patient</u>	<u>r_s</u>	<u>N</u>	
11	.655	6		21	-.164	7	
12	-.276	8		22	.770	8	$p < .05$
13	.741	8	$p < .05$	24	-.213	6	
15	.759	6		25	.548	8	
16	.732	8	$p < .05$	26	.862	8	$p < .01$
17	.316	7					

TABLE 5

Rank Order Correlations Between Patients' Perceptions of Amount They Contributed to the Group (GPI, Item 3) and the Frequency of Their Verbal Responses

<u>Patient</u>	<u>r_s</u>	<u>N</u>		<u>Patient</u>	<u>r_s</u>	<u>N</u>	
11	.655	6		21	.331	7	
12	-.030	8		22	.770	8	$p < .05$
13	.613	8		24	.152	6	
15	.850	6	$p < .05$	25	.548	8	
16	.620	8		26	.716	8	$p < .05$
17	.158	7					

APPENDIX L (Continued)

TABLE 6

Rank Order Correlations Between Patients' Perceptions of Effectiveness in Handling Their Problems (GPI, Item 9) and Total Duration of Their Verbal Responses

<u>Patient</u>	<u>r_s</u>	<u>N</u>		<u>Patient</u>	<u>r_s</u>	<u>N</u>
11	-.866	5		21	-.345	7
12	-.339	7		22	-.231	8
13	-.974	7	p .01	24	.000	6
15	-.580	5		25	.000	8
16	-.401	7		26	-.591	8
17	-.473	6				

TABLE 7

Rank Order Correlations Between Patients' Perceptions of Effectiveness in Handling Their Problems (GPI, Item 9) and Frequency of Their Verbal Responses

<u>Patient</u>	<u>r_s</u>	<u>N</u>		<u>Patient</u>	<u>r_s</u>	<u>N</u>
11	-.866	5		21	-.579	7
12	-.657	7		22	-.151	8
13	-.533	7		24	.000	6
15	-.948	5	p .05	25	.000	8
16	-.401	7		26	-.449	8
17	-.338	6				

APPENDIX L (Continued)

TABLE 8

Rank Order Correlations Between Group Rankings of
 "Benefit" (GPI, Item 8) and Rankings of
 Patients on Both Frequency and
 Duration of Verbal Responses

<u>Date</u>	<u>Group 1</u>		<u>Group 2</u>	
	<u>Dur./Benefit</u>	<u>Freq./Benefit</u>	<u>Dur./Benefit</u>	<u>Freq./Benefit</u>
4-20			.486	.829*
4-27	.771	.771	.700	.900*
5-4	.787	.897	1.000*	.900*
5-11	.829*	.829*	.350	.957
5-18	.886*	.886*	.206	.361
5-25	.593	.593	.412	.412
6-1	.429	.429	.900*	.900*
6-8	.000	-.320	.700	.900*

*p .05

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BIOGRAPHICAL SKETCH

Aubrey Clise Daniels was born May 17, 1935, in Lake City, South Carolina. He attended public schools in Lake City and entered Furman University in 1953. He graduated from Furman University in 1957 with the degree of Bachelor of Arts. At that time he also received a commission in the United States Army. During his military service he was stationed in Korea and at Fort Rucker, Alabama.

In September, 1960, he entered the University of Florida to work toward the degree of Doctor of Philosophy. Since then he worked for two years as a graduate assistant to the Dean, College of Health Related Professions and for two years was a United States Public Health Fellow. He completed an internship in Clinical Psychology at the J. Hillis Miller Health Center, University of Florida, Gainesville, Florida, in June, 1965.

He is married to the former Rebecca Lanette Tapp of Greer, South Carolina. They have a daughter, Laura Lee.

This dissertation was prepared under the direction of the chairman of the candidate's supervisory committee and has been approved by all members of that committee. It was submitted to the Dean of the College of Arts and Sciences and to the Graduate Council, and was approved as partial fulfillment of the requirements for the degree of Doctor of Philosophy.

December, 1965

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